Unit H: Transit Buses

Unit H - Transit Buses (Type D)

I. Introduction
Slides 1, 2

Discussion: At first glance what are some differences between the transit and conventional style bus?

Transit buses come in sizes ranging from 42 to 84 passenger buses. Transit buses, such as 78 and 84 passenger buses, are longer than conventional buses; the wheelbase is shorter (the wheelbase is the distance between the front and rear tires). The shorter the wheelbase of the bus, the tighter the turning radius will be. Consequently, transit buses turn tighter than their conventional counterparts.
Slide 3
The transit bus has increased visibility around the front of the bus. This greatly increases the safety of students crossing in front of the bus.
Slide 4
The driver seating position is different, in a transit bus; the driver sits in "front" of the front axle. By comparison, the driver sits "behind" the front axle in a conventional bus.

II. Dimensions and Turning Radius
Slide 5
The turning radius of a Type D transit bus is tighter than the Type C conventional bus.

•The 78-passenger transit bus is 36' 8'' long with a wheelbase of 238'', and a turning radius of approximately 35' 2".

•The 84-passenger transit bus is 39' 9'' long with a wheelbase of 267", and a turning radius of approximately 39' 1".

In comparison, a 64 passenger conventional bus is 29'2'' long with a wheelbase of 252", and a turning radius of approximately 35 feet.

III. Adjustment/Use of Mirrors
Slide 6

1. Inside flat rearview mirror (located over the windshield). Adjust so the driver can view the top of the rear window in the top mirror. The driver should be able to see students, including the top of the students directly behind the driver's seat.

The driver should be able to see somewhat outside of the passenger side windows, but will not be able to see below the window level.
2. Outside flat rearview mirrors (rectangular mirror on both sides of the bus). Adjust so the driver can see 200 feet or 4 bus lengths behind the bus, see the side of the bus, and see the rear tires touching the ground.

Note: On older transit buses, it may be impossible to see the tire touching the ground, but you should see the rubber skirting around the wheel well.

3. Convex Mirrors (located below the flat mirror on both sides of the bus). Adjust so that the driver can see the entire area to the rear of the mirror along the side of the bus. The driver should be able to see at least one traffic lane on either side of the bus. If adjusted properly, all blind spots in front of and along both sides of the bus will be eliminated. There are still blind spots behind the bus.
4. Crossover Mirrors. Adjust to see the entire area in front of the vehicle as well as the front bumper.

Discussion: Discuss FMVSS 111, mirror adjustment.

IV. Steering Position
Slide 7
Hand positions on the wheel should be at the "10 and 2 o'clock", "8 and 4 o'clock" or "9 and 3 o'clock" position with the thumbs up and hands placed on the outside of the wheel. Many drivers use a "9 and 3" position due to the flat angle of the wheel. In addition, many drivers use the "push/pull" hand position technique when driving transit buses.

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V. Stopping

Slide 8

The driver should place the entire foot gently on the brake pedal and then push softly with the toe or ball of the foot on the top of the pedal.

She/he should not push pedal at the bottom because it is hinged at the bottom and pressure there will not stop the bus. Before coming to a complete stop, she/he must release pressure to the brake slightly then reapply pressure to come to a smooth stop.

Note: Drivers should be aware that on transit buses, the brake pedal is much closer to the accelerator pedal than in conventional school buses.

Note: Drivers should be aware that on a transit bus, it may take longer to come to a complete stop than a conventional bus.

VI. Turns

Slide 9

1. Right Turns.

Utilize the four-foot rule (distance from the bus to the side of the road). Most right turns will begin when the driver can see down the curb line (looking out the entrance doorway) of the street onto which she/he will be turning. A sharp right turn may require more distance from the bus to the curb than the usual four feet. Be sure to watch all mirrors carefully, especially the 84-passenger bus, which has a greater tail-swing. If there is a parked car on the street on which you are turning, less than 40 feet from the intersection, use the left side of that car as your "curb line."

2. Left turns.

Left turns begin when the front of the bus is in the middle of the intersection. Check for tail-swing, clearance, and execute your turn. Transit buses have a tail-swing from a minimum of 1 foot on the 48-passenger bus, up to 3 feet on the 84-passenger bus.

VII. Backing

Slide 10

Backing a transit bus should be avoided unless necessary. Transit buses afford very little visibility through windows and mirrors from the driver's seat of what is located behind the bus. Backing a transit bus is especially dangerous, and drivers must be particularly cautious if the need for backing becomes a necessity.

Discussion: Discuss the dangers of backing a transit school bus. Cite examples.

Slide 11

Note: Backing a transit bus is not recommended.

VIII. Lane positioning

Slide 12

With the driver sitting much closer to the left side of the bus, there is a tendency to steer the bus too close and often over the right side white line or edge of roadway when first driving the transit bus. Therefore, it is extremely important to effectively use mirrors. The driver must position the bus in the center of the lane. She/he should use the left and right mirrors to assure that the bus is not drifting to the right. Avoid staring straight down in front of the bus. The driver must keep vision aimed high.

Slide 13

She/he must be observant of conditions down the road.

IX. Space Cushion

Slide 14

1. When Stopped

When stopped, the driver should maintain a space cushion that will allow him/her to pull out and go around a disabled vehicle in front of the bus using only one lane to the right or left. Due to better visibility in the transit bus, seeing the rear tires touching the ground may not provide an adequate space cushion. Allow additional space. This will:

a. Prevent the bus from striking a vehicle in front of it (if the bus is hit from behind)

b. Prevent the bus from being hit (if the vehicle in front rolls back)
c. Afford enough room to proceed around a disabled vehicle to the front using only the lane next to you

2. When Moving

The driver should leave a clear space to the left, right, or front of the bus. Leave two 45-degree angle escape routes to the sides whenever possible. She/he needs at least two escape route choices. Continuously check the mirrors for vehicles that stay within your space cushion.

Slightly decreasing speed will allow vehicles to pass and move out of the space cushion.

X. Caution notes for driving transit buses
Slide 15
Drivers should be aware of the following when operating a transit bus:
•Position and action of the accelerator and brake pedals (the two are very close together).
•Dips in the road (the front of the bus sits considerably lower to the ground than the rear).
•Underpass height clearance signs.
•Bridge and overpass weight limit signs.
•Leaning signs and objects close to the roadway.
•Uneven shoulders of a roadway.
•Vehicles along the side of the bus while making a turn.
•Narrow stairway of the bus and the tightly spaced driver's area.
•Turbo charged engines need additional time to cool down before turning them off. This gradual "cool down" period helps keep the metal turbo parts from contracting too quickly and cracking. Turbo engines should be idled between two and five minutes before shutting off.
•Be sure to continually check mirrors in order to avoid drifting off the road on the right side.

Unit Review

1. The _____ the wheelbase of the bus, the tighter the turning radius will be.

2. The driver's seating position is different, in a transit bus; the driver sits in "front" of the_____.

3. The transit bus has increased _____around the front of the bus.

4. Be aware, on many transit buses, the _____is much closer to the accelerator pedal than in conventional school buses.

5. Unless necessary, avoid _____a transit bus.

6. Be _____of conditions down the road.

7. When stopped, maintain a _____that will allow you to pull out and go around a disabled vehicle in front of you using only one lane to the right or left.

8. Drivers should be aware of _____height clearance and signs warning of clearances.

Answers

1. shorter
2. front axle
3. visibility
4. brake pedal
5. backing
6. observant
7. space cushion
8. underpass